

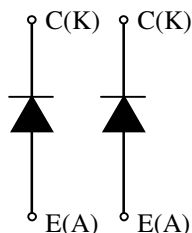
# MDM800H45E2-H

Target Specification

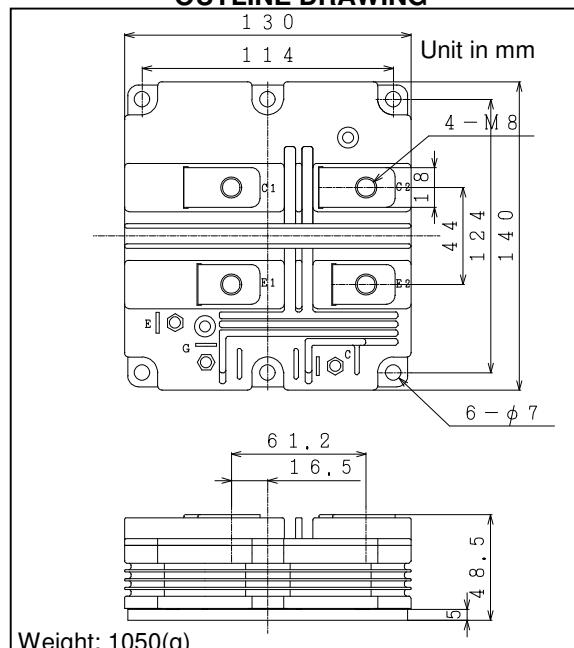
## FEATURES

- \* Low Reverse Recovery Loss diode module.
- \* Low noise recovery: Ultra soft fast recovery diode.
- \* High reverse recovery capability: Super HiRC Structure.
- \* High reliability, high durability diodes.
- \* Isolated heat sink (terminal to base).

## CIRCUIT DIAGRAM



## OUTLINE DRAWING



## ABSOLUTE MAXIMUM RATINGS (TC=25°C)

Item	Symbol	Unit	MDM800H45E2-H
Repetitive Peak Reverse Voltage	$V_{RRM}$	V	4,500
Forward Current	AC peak	A	800
	1ms		1,600
Junction Temperature	$T_j$	°C	-40 ~ +125
Storage Temperature	$T_{stg}$	°C	-40 ~ +125 (1)
Isolation Test Voltage	Terminals-base	$V_{ISO}$	8,400 (AC 1 minute)
	Terminal 1-Terminal 2		
Screw Torque	Terminals (M8)	N·m	10 (2)
	Mounting (M6)		6 (3)

Notes: (1) Terminal temperature shall not exceed the specified temperature in any operation.  
 (2) Recommended Value  $9 \pm 1\text{N}\cdot\text{m}$  (3) Recommended Value  $5.5 \pm 0.5\text{N}\cdot\text{m}$

## ELECTRICAL CHARACTERISTICS

Item	Symbol	Unit	Min.	Typ.	Max.	Test Conditions
Repetitive Reverse Current	$I_{RRM}$	mA	-	1.4	TBD	$V_{AK}=4,500\text{V}$ , $T_j=125^\circ\text{C}$
Forward Voltage Drop	$V_F$	V	TBD	4.2	4.7	$I_F=800\text{A}$ , $T_j=125^\circ\text{C}$
Reverse Recovery Time	trr	$\mu\text{s}$	-	0.9	TBD	$V_{CC}=2,600\text{V}$ , $I_F=800\text{A}$ , $L_s=190\text{nH}$
Reverse Recovery Loss	$E_{rr(10\%)}$	J/P	-	1.8	TBD	$T_j=125^\circ\text{C}$ , $R_g=4.7\Omega$ (4)

## PACKAGE CHARACTERISTICS

Item	Symbol	Unit	Min.	Typ.	Max.	Test Conditions
Terminal Resistance	$R_{CE}$	m $\Omega$	-	0.3	-	per arm
Terminal Stray Inductance	$L_{SCE}$	nH	-	42	-	per arm
Thermal Impedance	$R_{th(j-c)}$	K/W	-	-	0.026	Junction to case (per arm)
Comparative tracking index	CTI		-	600	-	
Contact Thermal Impedance	$R_{th(c-f)}$	K/W	-	0.007	-	Case to fin ( $\lambda_{grease}=1\text{W}/(\text{m}\cdot\text{K})$ , Heat-sink flatness $\leq 50\mu\text{m}$ )

Notes:(4) Counter arm; MBN800H45E2-H  $V_{GE}=\pm 15\text{V}$

$R_G$  value is the test condition's value for evaluation of the switching times, not recommended value.

Please, determine the suitable  $R_G$  value after the measurement of switching waveforms

(overshoot voltage, etc.) with appliance mounted.

\* Please contact our representatives at order.

\* For improvement, specifications are subject to change without notice.

\* For actual application, please confirm this spec sheet is the newest revision.

# MDM800H45E2-H

Target Specification

## HITACHI POWER SEMICONDUCTORS

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